

STEM-Rich Afterschool Making: Materials List for Nature Bots

This document outlines a starting place for gathering materials to make Nature bots, the fourth activity in the 6-week series. Nature Bots are sculptural motorized creations made of natural materials and simple electronic components that move and dance in interesting ways. Nature Bots provides an opportunity for students to deepen their investigations of balance, movement, and sculpture. Joining the smooth, aluminum bodies of motors and batteries with the textured, irregular and brittle natural materials foraged in local parks and walkways provides advanced experiences with iterative design, testing, and redesign.



Nature Bots integrates art, technology, and the natural sciences. We have found it can spur student conversations about human-nature relationships, help students to notice nature that exists where they didn't expect, and connects the building and designing process to observations and discoveries about the world around us.

Nature Bots		\$503		
Natural materials	\$0.00	50	\$0	collect locally
Hobby motor (1.5 to 3.0 V)	\$1.15	30	\$35	http://www.kelvin.com/mm5/merchant.mvc?Store_Code=k&Screen=PROD&Product_Code=851230
Screw drivers (tiny)	\$3.95	3	\$12	http://www.buywatchwinders.com/watch-repair-tools/mini-precision-screwdriver-set-p-479.html?gclid=CKqRf2O97wCFY17fgodjwYALw&ref=
AA batteries	\$0.35	30	\$11	http://www.cheap-batteries.com/p/MN1500AA-PRC.html
Broccoli bands	\$6.00	1	\$6	1LB bag, size #81 http://www.dykemarubberband.com
Masking tape	\$1.39	12	\$17	1" w http://www.uline.com/Product/Detail/S-11736/Masking-Tapes/1-x-60-yards-Uline-General-Purpose-Masking-Tape
Hot melt glue stick - small	\$8.49	1	\$8	http://amzn.com/B003JZII34 cut into various size pieces 1/4" to 2"
Hot melt glue stick - large	\$6.83	1	\$7	http://amzn.com/B00C6Z67UE cut into various size pieces 1/4" to 2"
Glue guns	\$10.61	4	\$42	http://amzn.com/B000NIFKRM
Clothespins	\$6.64	1	\$7	http://amzn.com/B002CGV57M
Popsicle sticks	\$4.21	1	\$4	http://amzn.com/B0033F7YQW
Copper wire - 18 ga	\$17.00	1	\$17	http://www.enasco.com/product/9711269
Copper wire - 22 ga	\$7.00	1	\$7	http://www.enasco.com/product/SB10508(Y)M
Wire stripper	\$18.90	3	\$57	http://amzn.com/B0002KR95W
Scissors	\$9.00	10	\$90	http://amzn.com/B00006IFN9
Googly eyes	\$4.50	1	\$5	http://amzn.com/B0074MHV7W
Pipe cleaners	\$10.75	1	\$11	http://amzn.com/B001QOGZ7Q
Vice	\$14.38	2	\$29	http://amzn.com/B0013E2AQY

Safety glasses	\$2.51	5	\$13	http://www.grainger.com/product/CONDOR-Safety-Glasses-1FYX6?nls=1&nlsit=0.8&ssf=2&searchQuery=1FYX6
Hand saw	\$16.00	2	\$32	http://amzn.com/B0001GLEZI
Pliers	\$10.00	1	\$10	http://amzn.com/B000A0S4Y4
Clamps	\$43.00	2	\$86	http://amzn.com/B00A9KMARW

Note: Materials sourced for 20 participants.